

# Two New Species of *Cissus* (Vitaceae) from Central and South America

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**ABSTRACT.** *Cissus pseudoverticillata* and *C. anisophylla*, new taxa of Vitaceae, are described from Central and South America. In addition to descriptions and illustrations, comments on their probable relationships and distributions are provided.

The 33 previously described species of *Cissus* L. recognized in the flora of South America (Lombardi, 1995) have been augmented by many new species discovered by the author in revising the genus for the area. With the discovery of additional specimens, two new species are described here: *Cissus pseudoverticillata*, from Peru and Bolivia, and *C. anisophylla*, from Ecuador and Panama.

***Cissus pseudoverticillata*** Lombardi, sp. nov.

**TYPE:** Peru. Madre de Dios: corner of Secondary Floodplain Forest Hectare Plot # 4, along Sunset Point Trail, Explorer's Inn, near the confluence of Río Tambopata and Río La Torre, 39 km SW of Puerto Maldonado, 12°50'S, 69°20'W, 15 Oct. 1985 (fl, young fr), S. F. Smith, Kahn & Shuhler 770 (holotype, US; isotype, F). Figure 1.

Frutex scandens, pilis brevis et parte reproductiva restricta, foliis simplicibus, *C. verticillatae* (L.) Nicolson et Jarvis simulans, sed pedicelis et calyce puberulis et plantis siccis olivo-viridis coloratis differt.

Liana; stems glabrous, cylindric, drying striate and olive green; reproductive shoots sometimes aphyllous on the apex. Tendrils 2-branched, glabrous, with adhesive discs; scales ca. 0.1 cm long, deltate, glabrous. Trichomes restricted to reproductive parts, not ramified and uni- to bicellular. Leaves simple, drying olive green; petioles 1–6.3 cm long, glabrous, canaliculate; stipules 0.1–0.15 × 0.1 cm, rhombic, glabrous, ciliate, papyraceous; lamina 4.3–13.3 × 1.5–10.1 cm, elliptic, ovate, on the apex of the reproductive shoots narrowly elliptic, apex acuminate, margin sparsely denticulate, slightly revolute, bases rounded to cuneate, markedly revolute at the junction with the petiole, car-

nose. Compound cymes 2.9–5.7 × 3–5.4 cm; peduncles 0.9–2.7 cm long, puberulous, green; bracts ca. 0.1 cm long, triangular, glabrous, ciliate; pedicels 0.1–0.25 cm long, puberulous, green; calyx ca. 0.1 cm long × 0.1–0.2 cm diam., truncate, puberulous, carnose, green; corolla in bud 0.1–0.2 cm long × 0.1–0.2 cm diam.; petals glabrous, carnose, green; stamens 4, filaments granulose, anthers adherent at pairs in bud, dehiscence latrorse, connective triangular, granulose, drying clear yellowish; disc apex slightly concave to flat; style cylindric, stigma obscure. Mature fruit not seen, seed not seen.

*Cissus pseudoverticillata* differs from the other simple-leaved neotropical species in its puberulous pedicels and calyx, the unbranched and paucicellular trichomes, and the characteristic olive green color of the dried plant. It is known from the borders of rainforests and secondary growths in Peru and Bolivia.

A sterile collection from Brazil (State of Acre) has been examined by the author, but not preserved.

This species is very similar, and perhaps closely related, to *Cissus verticillata* subsp. *verticillata*, but is easily distinguished by the trichomes on the flowers.

The abnormal size of some closed buds is due to the insect larvae, probably gall formers, that are found inside.

**Paratypes.** PERU. **Madre de Dios:** Cocha Cashu Camp, Río Manu, Parque Nacional del Manu, 380 m, Transect 4, 18 Oct. 1979 (st), Gentry et al. 26904 (F); Tambopata, alrededores del Albergue Turístico Cusco Amazónico, margen izquierda del Río Madre de Dios, ca. 35 km de Puerto Maldonado, 200 m, 29 Oct. 1988 (fl, young fr), Nuñez et al. 10025 (F, MO not seen). BOLIVIA. **Santa Cruz:** Prov. Ichilo, Parque Nacional Amboro, 0–2 km SW of El Carmen, 17°32'S, 63°42'W, 360 m, 9 Nov. 1990 (fl), Nee 39830 (CTES, NY not seen).

***Cissus anisophylla*** Lombardi, sp. nov. **TYPE:** Ecuador. Los Ríos: Río Palenque Biological Station, km 56 Quevedo-Santo Domingo, 150–220 m, 18 Mar. 1974 (fl), Dodson 5515 (holotype, US). Figure 2.



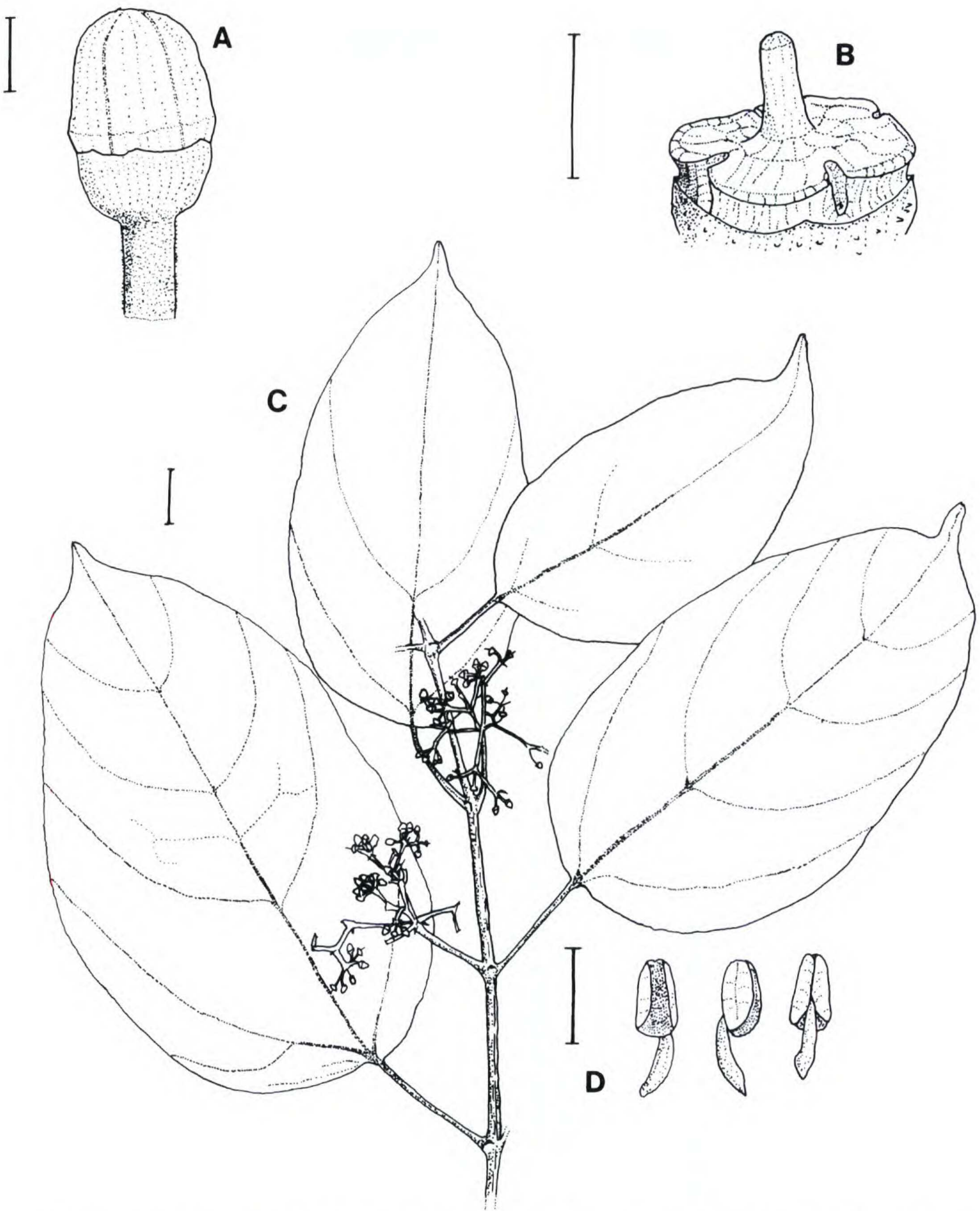


Figure 1. *Cissus pseudoverticillata* Lombardi. —A. Flower bud. —B. Nectariferous disc and pistil. —C. Reproductive branch. —D. Stamens, ventral, lateral, and dorsal views. A–D from S. F. Smith, Kahn & Shuhler 770. Scales A, B, D = 1 mm, C = 1 cm. Drawn by the author.

Frutex scandens, trichomatibus malpighiaceis, foliis simplicibus, floralibus minoribus et diversis, *C. pseudofuligineae* Lombardi simulans, sed denso indumento, ramiis non glaucescentibus, foliis cordatis vel triangularibus in ramiis vegetatilibus, stipulis triangularibus, et disco lobis elevatis differt.

Liana; stems tomentose, sparsely sericeous to glabrous, subcylindric to 4-angled. Tendrils not ramified, glabrous, adhesive discs not seen; scales ca. 0.1 cm long, deltate and prominent, glabrous. Trichomes malpighiaceous. Leaves simple, drying dark olive green;



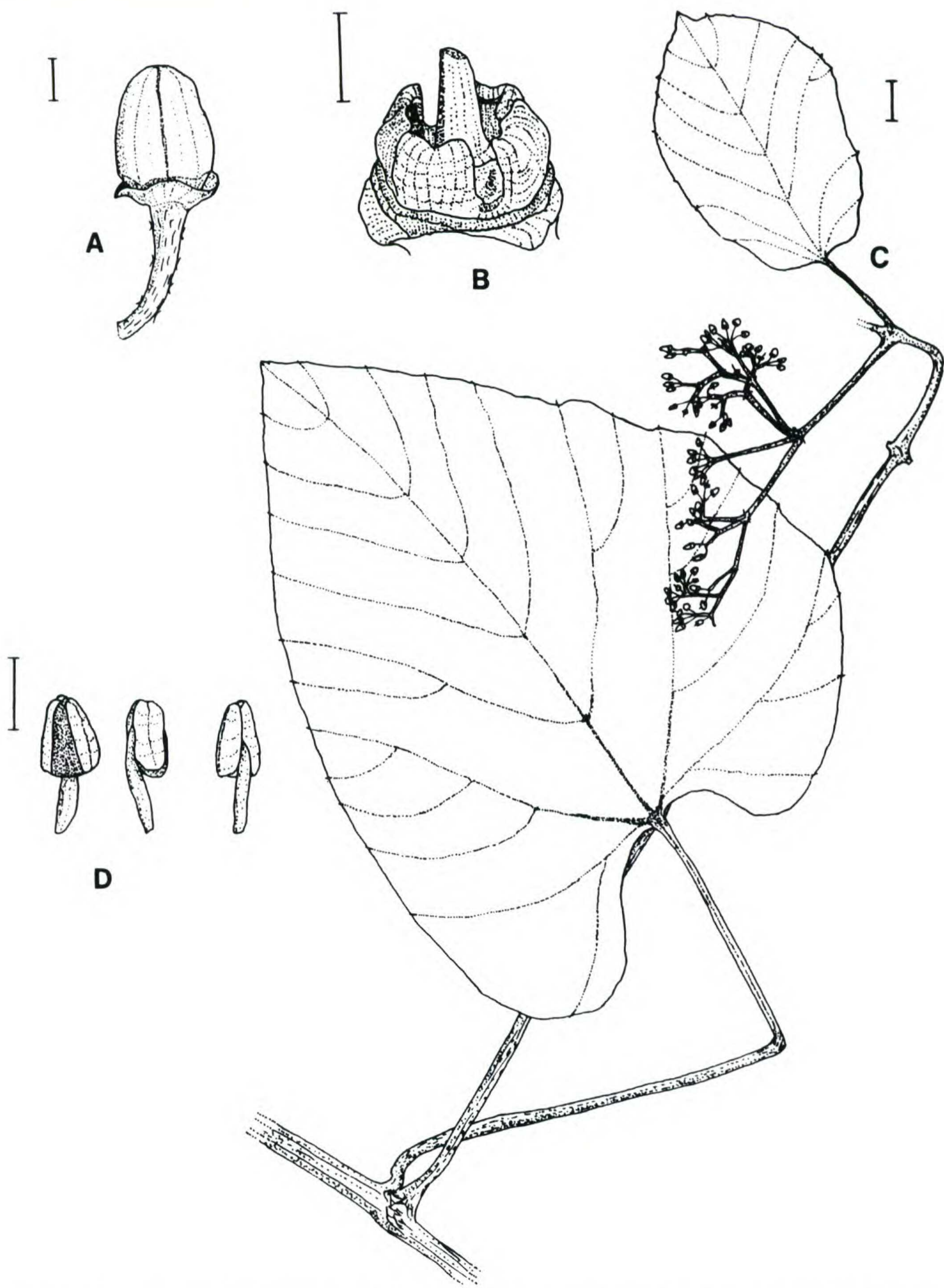


Figure 2. *Cissus anisophylla* Lombardi. —A. Flower bud. —B. Nectariferous disc and pistil. —C. Reproductive branch. —D. Stamens, ventral, lateral, and dorsal views. A, B, D from *Dodson 5515*, C from *Gentry 10139*. Scales A, B, D = 1 mm; C = 1 cm. Drawn by the author.



petioles 1.6–19.1 cm long, sparsely sericeous to tomentose, canaliculate; stipules 0.15–0.3 × 0.2 cm, triangular, sparsely pilose at the apex and margin to glabrescent, caducous, basal part shed before the apical part, remainder attached to stem at the medial part, carnos; lamina 7.8–23 × 4–18.5 cm, on vegetative shoots cordate to triangular, on reproductive shoots rhombic, panduriform, elliptic, to oblong, apex acute to acuminate, margin denticulate, bases cordate, truncate to rarely sagittate, young leaves hirsute on the abaxial side to sparsely sericeous on both sides, mature leaves very sparsely sericeous on both sides to glabrescent, herbaceous. Compound cymes 8.3–11.7 × 8–9.1 cm; peduncles 3–4.8 cm long, sparsely sericeous on the bases, and tomentose on the branches, green; bracts ca. 0.1 cm long, triangular, glabrous to pilose on the apex and bases, ciliate, drying blackish; pedicels 0.3–0.5 cm long, sericeous, green; calyx 0.05–0.1 cm long × 0.15–0.4 cm diam., lobes deltate and ciliate, sparsely sericeous, yellow-green; corolla in bud 0.2–0.3 cm long × 0.15–0.2 cm diam., petals sparsely sericeous, carnos, yellow-green; stamens 4, dehiscence latrorse, connective triangular, granulose, drying clear yellow; disc apex concave, sides projected on thin lobes; style cylindric, enlarged in medial portion, stigma obscure. Fruit ca. 0.8 × 0.7 cm, subpyriform, smooth, purple; seed ca. 0.8 × 0.6 cm, subpyriform, hilum acute, raphe slightly prominent, sides grooved.

*Cissus anisophylla* is characterized by its dimorphic leaves, chiefly cordate on vegetative shoots, and smaller and rhombic, panduriform, elliptic, to oblong on reproductive shoots; the malpighiaceous

trichomes; and the disc sides projected in a diminutive chamber.

This new species is known from the tropical evergreen forests of Ecuador and Panama.

The relationships of *Cissus anisophylla* to other species are obscure, but this new species is similar in size, and to a minor degree, by the shape of leaves, to *Cissus pseudofuliginea* Lombardi, but *Cissus pseudofuliginea* has glaucescent branches and leaves. The differences in leaves between reproductive and vegetative shoots in *Cissus pseudofuliginea* is not marked, and the variation is more of size than of shape.

*Paratypes.* PANAMA. **Colón:** Santa Rita lumber road, ca. 15 km E of Colón, not dated (fr), *Dressler 3436* (GH). ECUADOR. **Los Ríos:** hacienda Clementina, 1°40'S, 79°21'W, 80 m, 20 Mar. 1996 (fr), *Cornejo & Bonifaz 4804* (BHCB, GUAY not seen); Río Palenque Field Station, halfway between Quevedo and Santo Domingo de los Colorados, ca. 200 m, 23 Feb. 1974 (fl), *Gentry 10139* (MO not seen, RPSC not seen, SEL, UC). **Pichincha:** km 37 on the road from Santo Domingo to Quevedo, 0°32'S, 79°25'W, 100 m, 11 June 1982 (fr), *Kvist & Holm-Nielsen 40288* (AAU, MA).

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#### Literature Cited

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